



SEQUENCE LISTING

<110> FANRONG, KONG
GILBERT, GWENDOLYN

<120> MOLECULAR TYPING OF GROUP B STREPTOCOCCI

<130> 675002-2001

<140> 10/804,408

<141> 2004-03-19

<150> PCT/AU02/01281

<151> 2002-09-18

<150> AU PR 7749

<151> 2001-09-19

<160> 182

<170> PatentIn version 3.2

<210> 1

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

<400> 1

gcaaaaagaac agatggaaca aagtgg

26

<210> 2

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

<400> 2

cttttgaggt cgtggctatc ttg

23

<210> 3

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

<400> 3

gdaaaaaagg aaagtcgtgt crttg

25

<210> 4
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 4
cttggaytcc tctgaaaagg attg

24

<210> 5
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 5
aaamgcttga tcaacagtta agcagg

26

<210> 6
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 6
gatggyggac cggctatctt ttctc

25

<210> 7
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 7
cttaatttgt tctgcatcta ctgcg

25

<210> 8
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 8
gtagatggt caatatatca atgaatggc tatttggtca g 41

<210> 9
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 9
cctttcaaac cttaccttta cttagc 26

<210> 10
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 10
catctgggtgc cgctgtagca gtaccatt 28

<210> 11
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 11
gtcgaaaacc tctatrtaaa yggctttaca rccaaataac ttacc 45

<210> 12
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 12
aasagttcat atcatcatat gagag 25

<210> 13
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

 <400> 13
 ccgccrtgtg tgataacaat ctcagcttc 29

<210> 14
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 14
 atgatgatat gaactcttac atgaaagaag ctgagattg 39

<210> 15
 <211> 38
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 15
 gaactcttac atgaaagaag ctgagattgt tatcacac 38

<210> 16
 <211> 38
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 16
 ctatcaatga atgagtctgt tgtaggacgg attgcacg 38

<210> 17
 <211> 43
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 17
 gataatagtg gagaaatttg tgataattta tctcaaaaag acg 43

<210> 18
 <211> 38

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 18
 cctgattcat tgcagaagtc tttagatgc gataggtg 38

<210> 19
 <211> 41
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 19
 gggcgaattg tatcgctcgt gtcaacaaaa ccaatcaaat c 41

<210> 20
 <211> 41
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 20
 cccccataa gtataaataa tatccaatct tgcatagtca g 41

<210> 21
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 21
 gaagcaaaga ttctacacag ttctcaatca ctaactccg 39

<210> 22
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 22
 gtataacttc tatcaatgga tgagtctgtt gtagtacgg 39

<210> 23
 <211> 44
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 23
 ggtaatctta atatttttga agagtcaata gttgctgcat ctac

44

<210> 24
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 24
 ccaggaggagtg cagcgacctt aaatacaagc atc

33

<210> 25
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 25
 gatcctcaaa acctcattgt attaaatcca tcaagctatt c

41

<210> 26
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 26
 ccagttaaga cttcatcacg actcccatca c

31

<210> 27
 <211> 37
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 27
cagactgtta aagtggatga agatattacc ttacgg 37

<210> 28
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 28
cttaaagcta agtatgaaaa tgatatcatt ggagctcgtg 40

<210> 29
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 29
cttccgccag ataaaattaa g 21

<210> 30
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 30
ctgttgactt atctggatag gtc 23

<210> 31
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 31
cgtgttggtc aacagtccta tgcttagcct ctggtg 36

<210> 32
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

 <400> 32
 ggtatctggg ttatgaccat ttttccagtt atacg 35

<210> 33
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 33
 gttcttccgc ttaaggatag 20

<210> 34
 <211> 37
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 34
 gaccgtttgg tccttacctt ttgggtcgtt gctatcc 37

<210> 35
 <211> 42
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 35
 gaagtaattt caggaagtgc tggtacgtta aacacaaata tg 42

<210> 36
 <211> 36
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 36
 gaaggttggt tgaaataatt gccgccttgc ctaatg 36

<210> 37
 <211> 36

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 37
 aatactagct gcaccaacag tagtcaattc agaagg 36

<210> 38
 <211> 35
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 38
 gagaaaacaa gagggagacc gagtaaaatg ggacg 35

<210> 39
 <211> 37
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 39
 cacgatttcg cagttctaaa taaatccgac gatagcc 37

<210> 40
 <211> 36
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 40
 caaactccgt cacatcggtg tagcacttct catagg 36

<210> 41
 <211> 36
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 41
 ctattgatga ttgcgcagtt gaattggata gtcgtc 36

<210> 42
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 42
 gtttgggaca ggtagcggtt gaggagaaaa gtaatg

36

<210> 43
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 43
 cattactttt ctctcaacc gctacctgtc ccaaac

36

<210> 44
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 44
 cccaatacca cgtaacttat gccatttg

28

<210> 45
 <211> 38
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 45
 cgtgttacga gtcacccaa taccacgtaa cttatgcc

38

<210> 46
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 46
 cttatgaaca aattgcggct gattttggca ttcacg 36

<210> 47
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 47
 ggctcaggcg attgtcacia gccaaaggag 30

<210> 48
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 48
 ctaaaatcct agttcacggt tgatcattcc agc 33

<210> 49
 <211> 34
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 49
 cgtatctgtc acttattttcc ctgcggtgt ctcc 34

<210> 50
 <211> 34
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 50
 gccgatgtca caacatagtt caggatatag ccag 34

<210> 51
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

 <400> 51
 cgtaaaggag tccaaagatg atagcctttt tgaacc 36

<210> 52
 <211> 38
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 52
 catctcggaa caatatgctc gaagcttaca agcaagtg 38

<210> 53
 <211> 36
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 53
 ggggtcacta tcgagcagat ggatgactat cttcac 36

<210> 54
 <211> 35
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 54
 aatggctgtt tcgcaggagc gattgggtct gaacc 35

<210> 55
 <211> 35
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 55
 ccagggacat caatctgtct tgcggaacag tatcg 35

<210> 56
 <211> 25

<212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 56
 gatgtatcta tctggaactc tagtg

25

<210> 57
 <211> 42
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 57
 gtggctggtg cattgttatt ttcaccagct gtattagaag ta

42

<210> 58
 <211> 46
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 58
 cattaaccgg tttttcataa tctgttcct gaacattatc tttgat

46

<210> 59
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 59
 tttttccacg ctagtaatag cctc

24

<210> 60
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 60
 gccgcctaag gtgggataga tg

22

<210> 61
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 61
 cgtcgtttgt cacgtccttc

20

<210> 62
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 62
 catccttctg accggcctag agataggctt tct

33

<210> 63
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 63
 cgtcaccggc ttgcgactcg ttgtaccaa

29

<210> 64
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 64
 gcaaaaagaac agatggaaca aagtgg

26

<210> 65
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 65
cttttggagt cgtggctatc ttg 23

<210> 66
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 66
gdaaaaaagg aaagtcgtgt crttag 25

<210> 67
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 67
cttggaytcc tctgaaaagg attg 24

<210> 68
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 68
aaamgcttga tcaacagtta agcagg 26

<210> 69
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 69
gatggyggac cggctatctt ttctc 25

<210> 70
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

 <400> 70
 ctttaatttgt tctgcatcta ctcgc 25

<210> 71
 <211> 41
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 71
 gtttagatggt caatatatca atgaatgggc tatttgggtca g 41

<210> 72
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 72
 cttttcaaac cttaccttta cttagc 26

<210> 73
 <211> 28
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 73
 catctggtgc cgctgtagca gtaccatt 28

<210> 74
 <211> 45
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 74
 gtcgaaaacc tctatrtaaa ygggtcttaca rccaaataac ttacc 45

<210> 75
 <211> 25

<212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 75
 aasagttcat atcatcatat gagag

25

<210> 76
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 76
 ccgcrrtggtg tgataacaat ctgagcttc

29

<210> 77
 <211> 39
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 77
 atgatgatat gaactcttac atgaaagaag ctgagattg

39

<210> 78
 <211> 38
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 78
 gaactcttac atgaaagaag ctgagattgt tatcacac

38

<210> 79
 <211> 44
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 79
 cattctttgt ttaaaamtcc tgattttgat agaattttag cagc

44

<210> 80
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 80
 gaatattcaa aaaatcccat tgctctttga gtagcatac c

41

<210> 81
 <211> 46
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 81
 gtaagttatc aaaatataac atcattacta ttactagtag aaacgg

46

<210> 82
 <211> 37
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 82
 ggctgtgctgg gattaatgaa tatagttcca gggttgc

37

<210> 83
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 83
 gcaaacctgg aactatattc at

22

<210> 84
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 84
attgctgcat tcaattcac 19

<210> 85
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 85
gctgcattca attcactggc agtaggggtt gtgtcc 36

<210> 86
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 86
gatagtttaag ggtattataa gatttgaata ttcaaagaaa gc 42

<210> 87
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 87
tttggtgagc atatataata gaataatcaa tttgcgggtcg 40

<210> 88
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 88
ctggcctatt tggactaata aatgtgattt taggtttgtt tc 42

<210> 89
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

 <400> 89
 gaaacaaacc taaaatcaca ttta 24

<210> 90
 <211> 40
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 90
 ggcgcatca atatcttcaa gtgcaaaaaa tgaaaatagg 40

<210> 91
 <211> 38
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 91
 ctatcaatga atgagtctgt tgtaggacgg attgcacg 38

<210> 92
 <211> 43
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 92
 gataatagtg gagaaatttg tgataattta tctcaaaaag acg 43

<210> 93
 <211> 38
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 93
 cctgattcat tgcagaagtc tttagcatgc gatagggtg 38

<210> 94
 <211> 37

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 94
 caagaggata taacgtttca gcgatttatt gctgagc 37

<210> 95
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 95
 gaatactatt ggtctgtatg ttggttttat tagcatcgc 39

<210> 96
 <211> 42
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 96
 gttataagaa aaacaagcgg tgataaataa gaaagtcata cc 42

<210> 97
 <211> 42
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 97
 ccgtacatac aactgttctt gttagcattt actttttcttt gc 42

<210> 98
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 98
 cccaagtata gttatgaata ttagttggat gggtttttgg 39

<210> 99
 <211> 38
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 99
 catctacacc cccacaaaat attttcccaa aaaccatc

38

<210> 100
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 100
 tgtaaatacat ctacaccccc

20

<210> 101
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 101
 ggggtcaattg tatcgtcgct gtcaacaaaa ccaatcaaat c

41

<210> 102
 <211> 37
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 102
 ggggttaggc gagggaaact cagcttaciaa aatagtg

37

<210> 103
 <211> 40
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 103
 caatttttat agggatggac aatttattct gagaagtgac 40

<210> 104
 <211> 40
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 104
 tctcagaata aattgtccat ccctataaaa attgacatac 40

<210> 105
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 105
 gatgttcttt taacaggtag attacac 27

<210> 106
 <211> 40
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 106
 gttgtaaatg agcatagtg aatctacctg ttaaaagaac 40

<210> 107
 <211> 38
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 107
 cccagtgtgg taatgaatat tagttggcta gtttttgg 38

<210> 108
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 108
 cttttttata ggttcgatac catc

24

<210> 109
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 109
 ccccccataa gtataaataa tatccaatct tgcatagtca g

41

<210> 110
 <211> 40
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 110
 cactattcct agttttttgt gcatatttga caggggcaag

40

<210> 111
 <211> 40
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 111
 cttgcccctg tcaaatatgc acaaaaaact aggaatagtg

40

<210> 112
 <211> 37
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 112
 ccttattggg caaggtataa gagttccctc cagtgtg

37

<210> 113
 <211> 37

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 113
 ccacactgga gggaactctt ataccttgcc caataag 37

<210> 114
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 114
 gaagcaaaga ttctacacag ttctcaatca ctaactccg 39

<210> 115
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 115
 gtataacttc tatcaatgga tgagtctggt gtagtacgg 39

<210> 116
 <211> 40
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 116
 gcgattaaac aacaaactat ttttgatatt gacaatgcaa 40

<210> 117
 <211> 37
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 117
 gctaaatttc aaaaagggtct agagacaaat acgccag 37

<210> 118
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 118
 cccatctggt aacttcggtg catctggaag c

31

<210> 119
 <211> 38
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 119
 cagccaactc tttcgtcggtt acttccttga gatgtaac

38

<210> 120
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 120
 gtgaaattgt ataaggctat gaggtagagc ttggag

36

<210> 121
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 121
 acagtcacag ctaaaagtga ttcgaagacg acg

33

<210> 122
 <211> 40
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 122
 ccgttttaga atctttctgc tctggtgttt taggaacttg 40

<210> 123
 <211> 37
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 123
 gataaatatg atccaacagg aggggaaaca acagtac 37

<210> 124
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 124
 ctgggttttg tgtcacatga accgttactt ctactgtatc c 41

<210> 125
 <211> 44
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 125
 ggtaatctta atatttttga agagtcaata gttgctgcat ctac 44

<210> 126
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 126
 ccagggagtg cagcgacctt aaatacaagc atc 33

<210> 127
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 127
 gttttagaac aagggttttac agc

23

<210> 128
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 128
 gatcctcaaa acctcattgt attaaatcca tcaagctatt c

41

<210> 129
 <211> 38
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 129
 cggttctaact tcttcaatct tatccctcaa ggttggtg

38

<210> 130
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 130
 ccagttaaga cttcatcacg actcccatca c

31

<210> 131
 <211> 37
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 131
 cagactgtta aagtggatga agatattacc tttagcg

37

<210> 132
 <211> 40

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 132
 cttaaagcta agtatgaaaa tgatatcatt ggagctcgtg 40

<210> 133
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 133
 gttcttccgc cagataaaat taag 24

<210> 134
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 134
 ctgttgactt atctggatag gtc 23

<210> 135
 <211> 36
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 135
 cgtgttggtc aacagtccta tgcttagcct ctggtg 36

<210> 136
 <211> 35
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Synthetic oligonucleotide

 <400> 136
 ggtatctggt ttatgaccat tttccagtt atacg 35

<210> 137
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 137
 gttcttccgc ttaaggatag ca 22

<210> 138
 <211> 37
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 138
 gaccgtttgg tccttacctt ttgggttcggt gctatcc 37

<210> 139
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 139
 tacagatact gtgtttgcag ctgaag 26

<210> 140
 <211> 42
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 140
 gaagtaattt caggaagtgc tgttacgtta aacacaaata tg 42

<210> 141
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 141
gaagggttg tgaaataatt gccgccttgc ctaatg 36

<210> 142
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 142
aatactagct gcaccaacag tagtcaattc agaagg 36

<210> 143
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 143
catctatttt atctctcaaa gctgaag 27

<210> 144
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 144
gagaaaacaa gagggagacc gagtaaaatg ggacg 35

<210> 145
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 145
cacgatttcg cagttctaaa taaatccgac gatagcc 37

<210> 146
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 146
caaactccgt cacatcggta tagcacttct catagg 36

<210> 147
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 147
ctattgatga ttgcgcagtt gaattggata gtcgtc 36

<210> 148
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 148
gtttgggaca ggtagcggtt gaggagaaaa gtaatg 36

<210> 149
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 149
cattactttt ctctcaacc gctacctgtc ccaaac 36

<210> 150
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 150
ccaataacca cgtaacttat gccatttg 28

<210> 151
<211> 38

<212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 151
 cgtgttacga gtcacccaa taccacgtaa cttatgcc

38

<210> 152
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 152
 cttatgaaca aattgcggct gattttggca ttcacg

36

<210> 153
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 153
 ggctcaggcg attgtcaca gccaagggag

30

<210> 154
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 154
 ctaaaatcct agttcacggt tgatcattcc agc

33

<210> 155
 <211> 34
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 155
 cgtatctgtc acttatttcc ctgcgggtgt ctcc

34

<210> 156
 <211> 34
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 156
 gccgatgtca caacatagtt caggatatag ccag

34

<210> 157
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 157
 cgtaaaggag tccaaagatg atagcctttt tgaacc

36

<210> 158
 <211> 38
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 158
 catctcggaa caatatgctc gaagcttaca agcaagtg

38

<210> 159
 <211> 36
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 159
 ggggtcacta tcgagcagat ggatgactat cttcac

36

<210> 160
 <211> 35
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<400> 160
aatggctgtt tcgcaggagc gattgggtct gaacc 35

<210> 161
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 161
ccaggacat caatctgtct tgcggaacag tatcg 35

<210> 162
<211> 2217
<212> DNA
<213> Streptococcus agalactiae

<400> 162
gcaaaagaac agatggaaca aagtgggttca aagttcttag gtattattct taataaagtt 60
aatgaatctg ttgctactta cggcgattat ggaaattacg gaaaaaggga tagaaaaagg 120
aagtaaggga ctctgggtatt gaaagaaaaa gaaaatatac aaaagattat tatagcgatg 180
attcaaacmg ttgtagttta tttttctgca agtttgacat taacattaat tactcccaat 240
tttaaaagca ataaagatttt attgtttggt ctattgatac attatattgt tttttatctt 300
tctgattttt acagagactt ttggagtcgt ggctatcttg aagagtttaa aatgggtattg 360
aaatacagct ttactatat tttcatatca agttcattat tttttatttt taaaaactct 420
tttacaacga cagcactttc cttttttact tttattgcta tgaattcgat ttattatat 480
ctattgaatt cattttttaa atattatcga aaatattctt acgctaagtt ttcacgagat 540
accaaagttg ttttgataac gaataaggat tctttatcaa aaatgacctt taggaataaa 600
tacgaccata attatatcgc tgtctgtatc ttggactcct ctgaaaagga ttgttatgat 660
ttgaaacata actcgtaag gataataaac aaagatgctc ttacttcaga gttaacctgc 720
ttaactggtg atcaagcttt tattaacata ccattgaat tatttggtaa ataccaaata 780
caagatatta ttaatgacat tgaagcaatg ggagtgattg tcaatgttaa tntagaggca 840
cttagctttg ataatatagg agaaaagcga atccaaactt ttgaaggata tagtggtatt 900
acatattcta tgaaattcta taaatatagt caccttatag caaaacgatt tttggatatac 960
acgggtgcta ttataggttt gtcatatgt ggcattgtgg caatttttct agttccgcaa 1020
atcagaaaag atgggtggacc ggctatcttt tctcaaaata gagtaggtcg taatggtagg 1080

atttttagat tctataaatt cagatcaatg cgagtagatg cagaacaaat taagaaagat 1140
 ttattagttc acaatcaaatt gacagggcta atgtttaagt tagaagatga tcctagaatt 1200
 actaaaatag gaaaatttat tcgaaaaaca agcatagatg agttgcctca attctataat 1260
 gttttaaaag gtgatatgag tttagtagga acacgcctc ccacagttga tgaatatgaa 1320
 aagtataatt caacgcagaa gcgacgcctt agttttaagc caggaatcac tggtttgtgg 1380
 caaatatctg gtagaaataa tattactgat tttgatgaaa tcgtaaagtt agatgttcaa 1440
 tatatcaatg aatggctctat ttggtcagat attaagatta ttctcctaac actaaaggta 1500
 gttttactcg ggacaggagc taagtaaagg taaggtttga aaggaatata atgaaaattt 1560
 gtctgggttg ttcaagtggg ggtcatctag cacacttgaa ccttttgaaa cccatttggg 1620
 aaaaagaaga taggttttgg gtaacctttg ataaagaaga tgctaggagt attctaagag 1680
 aagagattgt atatcattgc ttctttccaa caaacgtaa tgtcaaaaac ttggtaaaaa 1740
 atactattct agcttttaag gtccttagaa aagaaagacc agatgttatc atatcatctg 1800
 gtgcgcgtgt agcagtagca ttcttttata ttggtaagtt atttggttgt aagaccgttt 1860
 atatagaggt tttcgacagg atagataaac caactttgac aggaaaatta gtgtatcctg 1920
 taacagataa atttattgtt cagtgggaag aaatgaaaaa agtttatcct aaggcaatta 1980
 atttaggagg aattttttta tgatttttgt cacagtgggg acacatgaac agcagttcaa 2040
 ccgtcttatt aaagaagttg atagattaaa agggacaggt gctattgatc aagaagtgtt 2100
 cattcaaacg gggtactcag acttcgaacc tcagaattgt cagtggtaa aatttctctc 2160
 atatgatgat atgaactctt acatgaaaga agctgagatt gttatcacac atggcgg 2217

<210> 163

<211> 2217

<212> DNA

<213> Streptococcus agalactiae

<400> 163

gcaaaagaac agatggaaca aagtgggttca aagttcttag gtattattct taataaagtt 60
 aatgaatctg ttgctactta cggcgattat ggaaattacg gaaaaaggga tagaaaaagg 120
 aagtaagggg ctcttgatt gaaagaaaaa gaaatatac aaaagattat tatagcgatg 180
 attcaaacag ttgtggttta tgtttctgta agtttgacat taacattaat cactcccaat 240
 tttaaaagca ataaagattt attgtttgtt ctattgatac attatattgt cttttatctt 300
 tctgattttt acagagactt ttggagtcgt ggctatcttg aagagtttaa aatgggtattg 360

aaatacagct tttactatat tttcatatca agttcattat tttttatfff taaaaactct	420
tttacaacga cactactttc cttttttact tttattgcta tgaattcgat tttattatat	480
ctattgaatt cattttttaa atattatcga aaatattcctt acgctaagtt ttcacgagat	540
accaaagttg ttttgataac gaataaggat tctttatcaa aaatgacctt taggaacaaa	600
tacgaccata attatatcgc tgtctgtatc ttggactcct ctgaaaagga ttgttatgat	660
ttgaaacata actcgttaag gataataaac aaagatgctc ttacttcaga gttaacctgc	720
ttaactgttg atcaagcttt tattaacata ccattgaat tatttggtaa ataccaaata	780
caagatatta ttattgacat tgaagcaatg ggagtgattg tcaatgttaa tgtagaggca	840
cttagctttg ataatatagg agaaaagcga atccaaactt ttgaaggata tagtggtatt	900
acatattcta tgaaattcta taaatatagt cacttatag caaacgatt tttggatatc	960
atgggtgcta ttataggttt gctcatatgt ggcatgtgg caatttttct agttccgcaa	1020
atcagaaaag atggcggacc ggctatcttt tctcaaaata gagtaggtcg taatggtagg	1080
attttttagat tctataaatt cagatcaatg cgagtagatg cagaacaaat taagaaagat	1140
ttattagttc acaatcaaat gacagggcta atgtttaagt tagaagatga tcctagaatt	1200
actaaaatag gaaaatttat tcgaaaaaca agcatagatg aattgcctca attctataat	1260
gttttaaaag gtgatatgag tttagtagga acacgcctc ccacagttga tgaatatgaa	1320
aagtataatt caacgcagaa gcgacgcctt agttttaagc caggaatcac tggtttgtgg	1380
caaatatctg gtagaaataa tattactgat tttgatgaaa tcgtaaagtt agatgttcaa	1440
tatatcaatg aatggcttat ttggtcagat attaagatta ttctcataac actaaaggta	1500
gttttactcg ggacaggagc taagtaaagg taaggtttga aaggaatata atgaaaattt	1560
gtctggttgg ttcaagtggg ggtcacctag cacacttgaa ccttttgaaa cccatttggg	1620
aaaaagaaga taggttttgg gtaacctttg ataaagaaga tgctaggagt attctaagag	1680
aagagattgt atatcattgc ttctttccaa caaacgtaa tgtcaaaaac ttggtaaaaa	1740
atactattct agcttttaag gtccttagaa aagaaagacc agatgttatc atatcatctg	1800
gtgccgctgt agcagtacca ttcttttata ttggtaagtt atttggttgt aagaccgttt	1860
atatagaggt tttcgacagg atagataaac caactttgac aggaaaatta gtgtatcctg	1920
taacagataa atttattgtt cagtgggaag aaatgaaaaa aatttatcct aaggcaatta	1980
atntagaggg aattttttta tgatttttgt cacagtgggg acacatgaac agcagttcaa	2040

ccgtcttatt aaagaagttg atagattaaa agggacaggt gctattgatc aagaagtggt 2100
 cattcaaacg gggtactcag actttgaacc tcagaattgt cagtgggtcaa aatttctctc 2160
 atatgatgat atgaactctt acatgaaaga agctgagatt gttatcacac atggcgg 2217

<210> 164

<211> 2217

<212> DNA

<213> Streptococcus agalactiae

<400> 164

gcaaaagaac agatggaaca aagtgggttca aagttcttag gtattattct taataaagtt 60
 aatgaatctg ttgctactta cggcgattat ggaaattacg gaaaaagga tagaaaaagg 120
 aagtaagggg ctcttgattt gaaagaaaaa gaaaatatac aaaagattat tatagcgatg 180
 attcaaaccg ttgtgggtta tttttctgca agtttgacat taacattaat tactcccaac 240
 tttaaaagca ataaagattt attgtttggt ctattgatac attatattgt cttttatctt 300
 tctgattttt acagagactt ttggagtcgt ggctatcttg aagagtttaa aatgggtattg 360
 aaatacagct ttactatat tttcatatca agttcattat tttttatttt taaaaactca 420
 tttacaacga cagactttc cttttttact tttattgcta tgaattcgat tttattatat 480
 ctattgaatt cattttttaa atattatcga aaatattctt acgctaagtt ttcacgagat 540
 accaaagttg ttttgataac gaataaggat tctttatcaa aaatgacctt taggaataaa 600
 tacgaccata attatatcgc tgtctgtatc ttggattcct ctgaaaagga ttgttatgat 660
 ttgaaacata actcgtaag gataataaac aaagatgctc ttacttcaga gttaacctgc 720
 ttaactgttg atcaagcttt tattaacata ccattgaat tatttggttaa ataccaata 780
 caagatatta ttaatgacat tgaagcaatg ggagtgattg tcaatgttaa tgtagaggca 840
 cttagctttg ataatatagg agaaaagcga atccaaactt ttgaaggata tagtggtatt 900
 acatattcta tgaaattcta taaatatagt caccttatag caaaacgatt tttggatatac 960
 atgggtgcta ttataggttt gctcatatgt ggcatgtgg caatttttct agttccgcaa 1020
 atcagaaaag atggtggacc ggctatcttt tctcaaaata gagtaggtcg taatggtagg 1080
 attttttagat tctataaatt cagatcaatg cgagtagatg cagaacaaat taagaaagat 1140
 ttattagttc acaatcaaat gacggggcta atgtttaagt tagacgatga tcctagaatt 1200
 actaaaatag gaaaatttat tcgaaaaaca agcatagatg agttgcctca attctataat 1260
 gttttaaaag gtgatatgag tttagtagga acacgcctc ccacagttga tgaatatgaa 1320

aagtataatt caacgcagaa gcgacgcctt agttttaagc caggaatcac tggtttgtgg 1380
 caaatatctg gtagaaataa tattactgat tttgatgaaa tcgtaaagtt agatgttcaa 1440
 tatatcaatg aatggctctat ttggtcagat attaagatta ttctcctaac gctaaaggta 1500
 gttttactcg ggacaggagc taagtaaagg taaggtttga aaggaatata atgaaaatctt 1560
 gtctgggttg ttcaagtggg ggtcacctag cacacttgaa ccttttgaaa cccatttggg 1620
 aaaaagaaga taggttttgg gtaacttttg ataaagaaga tgctaggagt attctaagag 1680
 aagagattgt atatcattgc ttctttccaa caaacgtaa tgtcaaaaac ttggtaaaaa 1740
 atactattct agcttttaag gtccttagaa aagaaagacc agatgttatc atatcatctg 1800
 gtgccgctgt agcagtagca ttcttttata ttggtaagtt atttggctgt aagaccgttt 1860
 atatagaggt ttctgacagg atagataaac caactttgac aggaaaatta gtgtatcctg 1920
 taacagataa atttattggt cagtgggaag aatgaaaa agtttatcct aaggcaatta 1980
 atttaggagg aattttttaa tgatttttgt cacagtaggg acacatgaac agcagttcaa 2040
 ccgtcttatt aaagaagttg atagattaaa agggacaggt gctattgatc aagaagtgtt 2100
 cattcaaacg ggttactcag actttgaacc tcagaattgt cagtgggtcaa aatttctctc 2160
 atatgatgat atgaactctt acatgaaaga agctgagatt gttatcacac acggcgg 2217

<210> 165

<211> 2225

<212> DNA

<213> Streptococcus agalactiae

<400> 165

gcaaaaagaac agatggaaca aagtgggttca aagttcttag gtattattct taataaagtt 60
 agtgaatctg ttgctactta cggcgattac ggcgattatg gaaattacgg aaaaaggat 120
 agaaaaagga agtaaggggc tcttgtattg aaagaaaaag aaaatataca aaagattatt 180
 atagcgatga ttcaaacagt tgtggtttat ttttctgcaa gtttgacatt aacattaatt 240
 actcccaatt taaaagcaa taaagattta ttgtttgttc tattgatata ttatattgtc 300
 ttttatcttt ctgattttta cagagacttt tggagtcgtg gctatcttga agagtttaaa 360
 atgggtattga aatacagctt ttactatatt ttcatatcaa gttcattatt ttttattttt 420
 aaaaactcat ttacaatgac acgactttcc ttttttctt ttattgctat gaattcgatt 480
 ttattatatc tattgaattc atttttaaaa tattatcgaa aatattctta cgctaagttt 540
 tcacgagata ccaaagttgt tttgataacg aataaggatt ctttatcaaa aatgacctt 600

aagaataaat acgaccataa ttatatcgct gtctgtatct tggactcctc tgaanaaggat	660
tggttatgatt tgaaacataa ctcgttaagg ataataaaca aagatgctct tacttcagag	720
ttaacctgct taactgttga tcaagctttt attaacatac ccattgaatt atttggtaaa	780
taccaaatac aagatattat taatgacatt gaagcaatgg gagtgattgt caatgttaat	840
gtagaggcac ttagctttga taatatagga gaaaagcgaa tccaaacttt tgaaggatat	900
agtgttatta catattctat gaaattctat aaatatagtc accttatagc aaaacgattt	960
ttggatatca tgggtgctat tataggtttg ctcatatgtg gcattgtggc aatttttcta	1020
gttccgcaaa tcagaaaaga tgggtggaccg gctatctttt ctcaaaatag agtaggtcgt	1080
aatggttagga tttttagatt tataaattca gatcaatgcg agtagatgca gaacaaatta	1140
agaaagattt attagttcac aatcaaatga cagggctaata gtttaagtta gacgatgac	1200
ctagaattac taaaatagga aaatttattc gaaaaacaag catagatgag ttgcctcaat	1260
tctataatgt tttaaaaggt gatatgagtt tagtaggaac acgccctccc acagttgatg	1320
aatatgaaaa gtataattca acgcagaagc gacgccttag ttttaagcca ggaatcactg	1380
gtttgtggca aatatctggt agaaataata ttactgattt tgatgaaatc gtaaagttag	1440
atgttcaata tatcaatgaa tgggtctatct ggtcagatat taagattatt ctccatacat	1500
taaaggtagt cttacttggg acaggagcta agtaaaggta aggtttgaaa ggaatataat	1560
gaaaatttgt ctggttggtt caagtgggtg tcatctagca cacttgaacc ttttgaaacc	1620
catttgggaa aaagaagata ggttttgggt aacctttgat aaagaagatg ctaggagtat	1680
tctaagagaa gagattgtat atcattgctt cttccaaca aaccgtaatg tcaaaaactt	1740
ggtaaaaaat actattctag cttttaaggt ccttagaaaa gaaagaccag atgttatcat	1800
atcatctggt gccgctgtag cagtaccatt cttttatatt ggtaagttat ttgggtgtaa	1860
gaccgtttat atagaggttt tcgacaggat agataaacca actttgacag gaaaattagt	1920
gtatcctgta acagataaat ttattgttca gtgggaagaa atgaaaaaag tttatcctaa	1980
ggcaattaat ttaggaggaa ttttttaatg atttttgtca cagtggggac acatgaacag	2040
cagttcaacc gtcttattaa agaagttgat agattaaaag ggacaggtgc tattgatcaa	2100
gaagtgttca ttcaaacggg ttactcagac tttgaacctc agaattgtca gtgggtcaaaa	2160
tttctctcat atgatgatat gaactcttac atgaaagaag ctgagattgt tatcacacat	2220
ggcgg	2225

<210> 166
 <211> 2226
 <212> DNA
 <213> Streptococcus agalactiae

<400> 166
 gcaaaagaac agatggaaca aagtgggttca aagttcttag gtattattct taataaagtt 60
 agtgaatctg ttgctactta cggcgattac ggcgattatg gaaattacgg aaaaagggat 120
 agaaaaagga agtaaggggc tcttgatttg aaagaaaaag aaaatataca aaagattatt 180
 atagcgatga ttcaaacagt tgtggtttat ttttctgcaa gtttgacatt aacattaatt 240
 actcccaatt ttaaaagcaa taaagattta ttgtttgttc tattgatata ttatattgtc 300
 ttttatcttt ctgattttta cagagacttt tggagtcgtg gctatcttga agagttaaaa 360
 atgggtattga aatacagctt ttactatatt ttcatatcaa gttcattatt ttttatTTTT 420
 aaaaactcat ttacaatgac acgactttcc ttttttctt ttattgctat gaattcgatt 480
 ttattatata tattgaattc atttttaaaa tattatcgaa aatattctta cgctaagttt 540
 tcacgagata ccaaagttgt tttgataacg aataaggatt ctttatcaaa aatgaccttt 600
 aagaataaat acgaccataa ttatatcgct gtctgtatct tggactcctc tgaaaaggat 660
 tgttatgatt tgaaacataa ctcgttaagg ataataaaca aagatgctct tacttcagag 720
 ttaacctgct taactgttga tcaagctttt attaacatac ccattgaatt atttggtaaa 780
 taccaaatac aagatattat taatgacatt gaagcaatgg gagtgattgt caatgttaat 840
 gtagaggcac ttagctttga taatatagga gaaaagcgaa tccaaacttt tgaaggatat 900
 agtggtatta catattctat gaaattctat aaatatagtc accttatagc aaaacgattt 960
 ttggatatca tgggtgctat tataggtttg ctcatatgtg gcattgtggc aatttttcta 1020
 gttccgcaaa tcagaaaaga tgggtggaccg gctatctttt ctcaaaatag agtaggtcgt 1080
 aatggtagga ttttttagatt ctataaattc agatcaatgc gagtagatgc agaacaatt 1140
 aagaaagatt tatttagttca caatcaaatg acagggctaa tgtttaagtt agacgatgat 1200
 cctagaatta ctaaaatagg aaaatttatt cgaaaaacaa gcatagatga gttgcctcaa 1260
 ttctataatg ttttaaaagg tgatatgagt ttagtaggaa cacgccctcc cacagttgat 1320
 gaatatgaaa agtataattc aacgcagaag cgacgcctta gttttaagcc aggaatcact 1380
 ggtttgtggc aaatatctgg tagaaataat attactgatt ttgatgaaat cgtaaagtta 1440
 gatgttcaat atatcaatga atggcttatt tggtcagata ttaagattat tctcctaaca 1500
 ttaaaggtag tcttacttgg gacaggagct aagtaaagggt aagggttgaa aggaatataa 1560

```

tgaaaatttg tctgggttgg tcaagtgggtg gtcattctagc acacttgaac tttttgaaat 1620
ccatttggga aaaagaagat aggttttggg taacctttga taaagaagat gctaggagta 1680
ttctaagaga agagattgta tatcattgct tctttccaac aaaccgtaat gtcaaaaact 1740
tggtaaaaaa tactattcta gcttttaagg tccttagaaa agaaagacca gatggttatca 1800
tatcatctgg tgccgctgta gcagtaccat tcttttatat tggtaagtta tttggttgta 1860
agaccattta tatagagggt ttcgacagga tagataaacc aactttgaca ggaaaattag 1920
tgtatcctgt aacagataaa tttattgttc agtgggaaga aatgaaaaaa gtttatccta 1980
aggcaattaa tttaggagga attttttaat gatttttgtc acagtgggga cacatgaaca 2040
gcagttcaac cgtcttatta aagaagtga tagattaa gggacaggtg ctattgatca 2100
agaagtgttc attcaaacgg gttactcaga ctttgaacct cagaattgtc agtgggtcaaa 2160
atctctctca tatgatgata tgaactgtta catgagagaa gctgagattg ttatcacaca 2220
tggcgg 2226

```

```

<210> 167
<211> 2226
<212> DNA
<213> Streptococcus agalactiae

```

```

<400> 167
gcaaaagaac agatggaaca aagtgggttca aagttcttag gtattattct taataaagtt 60
aatgaatctg ttgctactta cggcgattac ggcgattatg gaaattacgg aaaaagggat 120
agaaaaagga agtaaggggc tcttgatttg aaagaaaaag aaaatataca aaagattatt 180
atagcgatga ttcaaacagt tgtagtttat ttttctgcaa gtttgacatt aacattaatt 240
actccaatt ttaaaagcaa taaagattta ttgtttgttc tattgataca ttatattgtc 300
ttttatcttt ctgattttta cagagacttt tggagtcgtg gctatcttga agagtttaaa 360
atggtattga aatacagctt ttactatatt ttcatatcaa gttcattatt tttatttttt 420
aaaaactctt ttacaacgac acgactttcc ttttttactt ttattgctat gaattcgatt 480
ttattgtatc tattgaattc atttttaaaa tattatcgaa aatattctta cgctaagttt 540
tcacgagata ccaaagttgt tttgataacg aataaggatt ctttatcaaa aatgaccttt 600
aggaataaat acgaccataa ttatatcgct gtctgtatct tggactcctc tgaaaaggat 660
tgttatgatt tgaaacataa ctcgtaagg ataataaaca aagatgctct tacttcagag 720
ttaacctgct taactgttga tcaagctttt attaacatac ccattgaatt atttggtaaa 780

```

taccaaatac aagatattat taatgacatt gaagcaatgg gagtgattgt caatgttaat	840
gtagaggcac ttagctttga taatatagga gaaaagcgaa tccaaacttt tgaaggatat	900
agtgttatta catattctat gaaattctat aaatatagtc accttatagc aaaacgattt	960
ttggatatca cgggtgctat tataggtttg ctcatatgtg gcattgtggc aatttttcta	1020
gttccacaaa tcagaaaaga tgggtggaccg gctatctttt ctcaaaatag agtaggtcgt	1080
aatggtagga tttttagatt ctataaattc agatcaatgc gagtagatgc agaacaaatt	1140
aagaaagatt tattagttca caatcaaagc acagggctaa tgtttaagtt agaagatgat	1200
cctagaatta ctaaaatagg aaaatttatt cgaaaaacaa gcatagatga gttgcctcaa	1260
ttctataatg ttttaaaagg tgatatgagt ttagtaggaa cacgccctcc cacagttgat	1320
gaatatgaaa agtataattc aacgcagaag cgacgcctta gttttaagcc aggaatcact	1380
ggtttgtggc aaatatctgg tagaaataat atcactgatt ttgatgaaat cgtaaagtta	1440
gatgttcaat atatcaatga atggtctatt tggtcagata ttaagattat tctcctaaca	1500
ctaaaggtag tcttacttgg gacaggtgct aagtaaaggt aaggtttgaa aggaatataa	1560
tgaaaatttg tctggttggg tcaagtgggt gtcacttagc acacttgaac cttttgaaac	1620
ccatttggga aaaagaagat aggttttggg taaccttga taaagaagat gctaggagta	1680
ttctaagaga agagattgta tatcattgct tctttccaac aaaccgtaat gtcaaaaact	1740
tggtaaaaaa tactattcta gcttttaagg tccttagaaa agaaagacca gatgttatca	1800
tatcatctgg tgccgctgta gcagtaccat tcttttatat tggttaagtta tttggttgta	1860
agaccgttta tatagaggtt ttcgacagga tagataaacc aactttgaca ggaaaattag	1920
tgtatcctgt aacagataaa tttattgttc agtgggaaga aatgaaaaaa gtttatccta	1980
aggcaattaa tttaggagga attttttaat gatttttgtc acagtgggga cacatgaaca	2040
gcagttcaac cgtcttatta aagaagttga tagattaaaa gggacaggtg ctattgatca	2100
agaagtgttc attcaaacgg gttactcaga ctttgaacct cagaattgtc agtgggtcaa	2160
atttctctca tatgatgata tgaactctta catgaaagaa gctgagattg ttatcacaca	2220
tggcgg	2226

<210> 168

<211> 2226

<212> DNA

<213> Streptococcus agalactiae

<400> 168
 gcaaaaagaac agatggaaca aagtggttca aagttcttag gtattattct taataaagtt 60
 agtgaatctg ttgctactta cggcgattac ggcgattatg gaaattacgg aaaaagggat 120
 agaaaaagga agtaaggggc tcttgatttg aaagaaaaag aaaatataca aaagattatt 180
 atagcgatga ttcaaacagt tgtggtttat ttttctgcaa gtttgacatt aacattaatt 240
 actcccaatt ttaaaagcaa taaagattta ttgtttgttc tattgatata ttatattgtc 300
 ttttatcttt ctgattttta cagagacttt tggagtcgtg gctatcttga agagttaa 360
 atggtattga aatacagctt ttactatatt ttcatatcaa gttcattatt ttttattttt 420
 aaaaactcat ttacaacgac acgactttcc ttttttctt ttattgctat gaattcgatt 480
 ttattgtatc tattgaattc atttttaaaa tattatcgaa aatattctta cgctaagttt 540
 tcacgagata ccaaagttgt ttgataacg aataaggatt ctttatcaaa aatgaccttt 600
 aggaataaat acgaccataa ttatatcgct gtctgcatct tggactcctc tgaaaaggat 660
 tgttatgatt tgaacataa ctcgtaagg ataataaaca aagatgctct tacttcagag 720
 ttaacctgct taactgttga tcaagctttt attaacatac ccattgaatt atttggtaaa 780
 taccaaatac aagatattat taatgacatt gaagcaatgg gagtgattgt caatgttaat 840
 gtagaggcac ttagctttga taatatagga gaaaagcgaa tccaaacttt tgaaggatat 900
 agtgttatta catattctat gaaattctat aaatatagtc accttatagc aaaacgattt 960
 ttggatatca cgggtgctat tataggtttg ctcatatgtg gcattgtggc aatttttcta 1020
 gttccacaaa tcagaaaaga tgggtggaccg gctatctttt ctcaaaatag agtaggtcgt 1080
 aatggttagga tttttagatt ctataaattc agatcaatgc gagtagatgc agaacaaatt 1140
 aagaaagatt tattagttca caatcaaatt acagggctaa tgtttaagtt agacgatgat 1200
 cctagaatta ctaaaatagg aaaatttatt cgaaaaacaa gcatagatga gttgcctcaa 1260
 ttctataatg ttttaaaagg tgatatgagt ttagtaggaa cagccctcc cacagttgat 1320
 gaatatgaaa agtataattc aacgcagaag cgacgcctta gttttaagcc aggaatcact 1380
 ggtttggtggc aaatatctgg tagaaataat atcactgatt ttgatgaaat cgtaaagtta 1440
 gatgttcaat atatcaatga atggtctatt tggtcagata ttaagattat tctcctaaca 1500
 ctaaaggtag tcttacttgg gacaggtgct aagtaaaggt aaggtttgaa aggaatataa 1560
 tgaaaatttg tctggttggg tcaagtgtg gtcacttagc acacttgaac cttttgaaac 1620
 ccatttgga aaaagaagat aggttttggg taacctttga taaagaagat gctaggagta 1680

ttctaagaga agagattgta tatcattgct tctttccaac aaaccgtaat gtcaaaaact	1740
tggtaaaaaa tactattcta gcttttaagg tccttagaaa agaaagacca gatgttatca	1800
tatcatctgg tgccgctgta gcagtacat tcttttatat tggttaagta tttggttgta	1860
agaccgttta tatagagggtt ttcgacagga tagataaacc aactttgaca ggaaaattag	1920
tgtatcctgt aacagataaa tttattgttc agtgggaaga aatgaaaaaa gtttatccta	1980
aggcaattaa tttaggagga attttttaat gatttttgtc acagtgggga cacatgaaca	2040
gcagttcaac cgtcttatta aagaagttga tagattaaaa gggacaggtg ctattgatca	2100
agaagtgttc attcaaacgg gttactcaga ctttgaacct cagaattgtc agtgggtcaaa	2160
atttctctca tatgatgata tgaactctta catgaaagaa gctgagattg ttatcacaca	2220
tggcgg	2226

<210> 169

<211> 2226

<212> DNA

<213> Streptococcus agalactiae

<400> 169

gcaaaagaac agatggaaca aagtgggttca aagttcttag gtattattct taataaagtt	60
aatgaatctg ttgctactta cggcgattac ggcgattatg gaaattacgg aaaaagggat	120
agaaaaagga agtaaggggc tcttgtattg aaagaaaaag aaaatataca aaagattatt	180
atagcgatga ttcaaacagt tgtggtttat ttttctgcaa gtttgacatt aacattaatt	240
actccaatt ttaaaagcaa taaagattta ttgttgttc tattgatata ttatattgtc	300
ttttatcttt ctgattttta tagagacttt tggagtcgtg gctatcttga agagtttaaa	360
atggatttga aatacagctt ttactatatt ttcatatcaa gttcattatt ttttattttt	420
aaaaactctt ttacaacgac acgactttcc ttttttactt ttattgctat gaattcgatt	480
ttattatata tattgaattc attttttaaa tattatcgaa aatattctta cgctaagttt	540
tcacgagata ccaaagttgt tttgataacg aataaggatt ctttatcaaa aatgaccttt	600
aggaataaat acgaccataa ttatatcgct gtctgcatct tggactcctc tgaaaaggat	660
tgttatgatt tgaaacataa ctcgtaagg ataataaaca aagatgctct tacttcagag	720
ttaacctgct taactgttga tcaagctttt attaacatac ccattgaatt atttggtaaa	780
taccaaatac aagatattat taatgacatt gaagcaatgg gagtgattgt caatgttaat	840
gtagaggcac ttagctttga taatatagga gaaaagcgaa tccaaacttt tgaaggatat	900

```

agtgttatta catattctat gaaattctat aaatatagtc accttatagc aaaacgattt 960
ttggatatca cgggtgctat tataggtttg ctcatatgtg gcattgtggc aatttttcta 1020
gttccgcaaa tcagaaaaga tgggtggaccg gctatctttt ctcaaaatag agtaggtcgt 1080
aatggttagga ttttttagatt ctataaatte agatcaatgc gagtagatgc agaacaaatt 1140
aagaaagatt tattagttca caatcaaagc acagggctaa tgtttaagtt agaagatgat 1200
cctagaatta ctaaaatagg aaaatttatt cgaaaaacaa gcatagatga gttgcctcaa 1260
ttctataatg ttttaaaagg tgatatgagt ttagtaggaa cacgccctcc cacagttgat 1320
gaatatgaaa agtataatcc aacgcagaag cgacgcctta gttttaagcc aggaatcact 1380
ggtttgtggc aaatatctgg tagaaataat attactgatt ttgatgaaat cgtaaagtta 1440
gatgttcaat atatcaatga atgggtctatt tggtcagata ttaagattat tctcctaaca 1500
ctaaaggtag ttttactcgg gacaggagct aagtaaaggt aagggttgaa aggaatataa 1560
tgaaaatttg tctggttggt tcaagtgggt gtcacttagc acacttgaa cttttgaaac 1620
ccatttgggg aaaagaagat aggttttggg taacctttga taaagaagat gctaggagta 1680
ttctaagaga agagattgta tatcattgct tctttccaac aaaccgtaat gtcaaaaact 1740
tggtaaaaaa tactattcta gcttttaagg tccttagaaa agaaagacca gatgttatca 1800
tatcatctgg tgccgctgta gcagtaccat tcttttatat tggtaagtta tttggttgta 1860
agaccgttta tatagagggt ttcgacagga tagataaacc aactttgaca ggaaaattag 1920
tgtatcctgt aacagataaa tttattgttc agtgggaaga aatgaaaaaa gtttatccta 1980
aggcaattaa tttaggagga attttttaat gatttttgtc acagtgggga cacatgaaca 2040
gcagttcaac cgtcttatta aagaagttga tagattaaaa gggacaggtg ctattgatca 2100
agaagtgttc attcaaacgg gttactcaga cttcgaacct cagaattgtc agtgggtcaaa 2160
atctctctca tatgatgata tgaactctta catgaaagaa gctgagattg ttatcacaca 2220
tggcgg 2226

```

```

<210> 170
<211> 2226
<212> DNA
<213> Streptococcus agalactiae

```

```

<400> 170
gcaaaagaac agatggaaca aagtgggtca aagttcttag gtattattct taataaagtt 60
aatgaatctg ttgctactta cggcgattac ggcgattatg gaaattacgg aaaaagggat 120

```

agaaaaagga agtaaggggc tcttgatttg aaagaaaaag aaaatatata aaagattatt	180
atagcgatga ttcaaaccgt tgtgggttat ttttctgcaa gtttgacatt aacattaatt	240
actcccaact ttaaaagcaa taaagattta ttgtttgttc tattgatata ttatattgtc	300
ttttatcttt ctgattttta cagagacttt tggagtcgtg gctatcttga agagttaaaa	360
atgggtattga aatacagctt ttactatatt ttcatatcaa gttcattatt ttttattttt	420
aaaaactctt ttacaacgac acgactttcc ttttttactt ttattactat gaattcgatt	480
ttattatata tattgaattc atttttaaaa tattatcgaa aatattctta cgctaagttt	540
tcacgagata ccaaagttgt tttgataacg aataaggatt ctttatcaaa aatgaccttt	600
aggaataaat acgaccataa ttatatcgct gtctgtatct tggattcctc tgaaaaggat	660
tgttatgatt tgaaacataa ctcggttaagg ataataaaca aagatgctct tacttcagag	720
ttaacctgct taactgttga tcaagctttt attaacatac ccattgaatt atttggtaaa	780
taccaaatac aagatattat taatgacatt gaagcaatgg gagtgattgt caatgttaat	840
gtagaggcac ttagctttga taatatagga gaaaagcgaa tccaaacttt tgaaggatat	900
agtgttatta catattctat gaaattctat aaatatagtc accttatagc aaaacgattt	960
ttggatatca cgggtgctat tataggtttg ctcatatgtg gcattgtggc aatttttcta	1020
gttccacaaa tcagaaaaga tgggtggaccg gctatctttt ctcaaaatag agtaggtcgt	1080
aatggtagga tttttagatt ctataaattc agatcaatgc gagtagatgc agaacaaatt	1140
aagaaagatt tatttagttca caatcaaatg acagggctaa tgtttaagtt agaagatgat	1200
cctagaatta ctaaaatagg aaaatttatt cgaaaaacaa gcatagatga gttgcctcaa	1260
ttctataatg ttttaaaagg tgatatgagt ttagtaggaa cacgccctcc cacagttgat	1320
gaatatgaaa agtataattc aacgcagaag cgacgcctta gttttaagcc aggaatcact	1380
ggtttgtggc aaatatctgg tagaaataat attactgatt ttgatgaaat cgtaaagtta	1440
gatgttcaat atatcaatga atggctctatt tggtcagata ttaagattat tctcctaaca	1500
ctaaaggtag tcttacttgg gacaggtgct aagtaaaggt aaggtttgaa aggaatataa	1560
tgaaaatttg tctggttggt tcaagtgggtg gtcacttagc acacttgaac cttttgaaac	1620
ccattttgga aaaagaagat aggttttggt taaccttga taaagaagat gctaggagta	1680
ttctaagaga agagattgta tatcattgct tctttccaac aaaccgtaat gtcaaaaaact	1740
tggtaaaaaa tactattcta gcttttaagg tccttagaaa agaaagacca gatgttatca	1800
tatcatctgg tgccgctgta gcagtaccat ttttttatat tggtaagtta tttggttgta	1860

agaccgttta tatagaggtt ttcgacagga tagataaacc aactttgaca ggaaaattag	1920
tgtatcctgt aacagataaa tttattgttc agtgggaaga aatgaaaaaa gtttatccta	1980
aggcaattaa tttaggagga attttttaat gatttttgtc acagtgggga cacatgaaca	2040
gcagttcaac cgtcttatta aagaagttga tagattaaaa gggacagatg ctattgatca	2100
agaagtgttc attcaaacgg gttactcaga ctttgaacct cagaattgtc agtgggtcaaa	2160
atttctctca tatgatgata tgaactctta catgaaagaa gctgagattg ttatcacaca	2220
tggcgg	2226

<210> 171

<211> 2226

<212> DNA

<213> Streptococcus agalactiae

<400> 171

gcaaaagaac agatggaaca aagtggttca aagttcttag gtattattct taataaagtt	60
aatgaatctg ttgctactta cggcgattac ggcgattatg gaaattacgg aaaaagggat	120
agaaaaagga agtaaggrgc tcttgatttg aaagaaaaag aaaatataca aaagattatt	180
atagcgatga ttcaaacmgt tgtggtttat ttttctgcaa gtttgacatt aacattaatt	240
actcccaayt ttaaaagcaa taaagattta ttgttgttc tattgataca ttatattgtc	300
ttttatcttt ctgattttta cagagacttt tggagtcgtg gctatcttga agagttaaaa	360
atggtattga aatacagctt ttactatatt ttcatatcaa gttcattatt ttttattttt	420
aaaaactctt ttacaacgac acgactttcc ttttttactt ttattgctat gaattcgatt	480
ttattatatac tattgaattc atttttaaaa tattatcgaa aatattctta cgctaagttt	540
tcacgagata ccaaagttgt tttgataacg aataaggatt ctttatcaaa aatgaccttt	600
aggaataaat acgaccataa ttatatcgct gtctgtatct tggattcctc tgaaaaggat	660
tgttatgatt tgaaacataa ctcgtaagg ataataaaca aagatgctct tacttcagag	720
ttaacctgct taactgttga tcaagctttt attaacatac ccattgaatt atttggtaaa	780
taccaaatac aagatattat taatgacatt gaagcaatgg gagtgattgt caatgttaat	840
gtagaggcac ttagctttga taatatagga gaaaagcgaa tccaaacttt tgaaggatat	900
agtgttatta catattctat gaaattctat aaatatagtc accttatagc aaaacgattt	960
ttggatatca cgggtgctat tataggtttg ctcatatgtg gcattgtggc aatttttcta	1020
gttccacaaa tcagaaaaga tgggtggaccg gctatctttt ctcaaaatag agtaggtcgt	1080


```

aatggttagga tttttagatt ctataaattc agatcaatgc gagtagatgc agaacaaatt 1140
aagaaagatt tattagttca caatcaaattg acaggggctaa tgtttaagtt agacgatgat 1200
cctagaatta ctaaaatagg aaaattttatt cgaaaaacaa gcatagatga gttgcctcaa 1260
ttctataatg ttttaaaggg tgatatgagt ttagtaggaa cacgccctcc cacagttgat 1320
gaatatgaaa agtataattc aacgcagaag cgacgcctta gttttaagcc aggaatcact 1380
ggtttgtggc aaatatctgg tagaaataat attactgatt ttgatgaaat cgtaaagtta 1440
gatgttcaat atatcaatga atggtctatt tggtcagata ttaagattat tctcctaaca 1500
ctaaaggtag ttttactcgg gacaggagct aagtaaaggt aaggtttgaa aggaatataa 1560
tgaaaatttg tctggttggg tcaagtgggt gtcacttagc acacttgaaac cttttgaaac 1620
ccatttgagg aaaagaagat aggttttggg taacctttga taaagaagat gctaggagta 1680
ttctaagaga agagattgta tatcattgct tctttccaac aaaccgtaat gtcaaaaact 1740
tggtaaaaaa tactattcta gcttttaagg tccttagaaa agaaagacca gatgttatca 1800
tatcatctgg tgccgctgta gcagtaccat tcttttatat tggttaagtt tttggttgta 1860
agaccgttta catagagggt ttcgacagga tggataaacc aactttgaca ggaaaattag 1920
tgtatcctgt aacagataaa tttattgttc agtgggaaga aatgaaaaaa gtttatccta 1980
aggcaattaa tttaggagga attttttaat gatttttgtc acagtgggga cacatgaaca 2040
gcagttcaac cgtcttatta aagaagttga tagattaaaa gggacagggt ctattgatca 2100
agaagtgttc attcaaacgg gttactcaga ctttgaacct cagaattgtc agtgggtcaaa 2160
atttctctca tatgatgata tgaactctta catgaaagaa gctgagattg ttatcacaca 2220
tggcgg 2226

```

```

<210> 172
<211> 2217
<212> DNA
<213> Streptococcus agalactiae

```

```

<400> 172
gcaaaagaac agatggaaca aagtgggttca aagttcttag gtattattct taataaagtt 60
agtgaatctg ttgctactta cggcgattat ggaaattacg gaaaaaggga tagaaaaagg 120
aagtaagggg ctcttgattt gaaagaaaaa gaaaatatac aaaagattat tatagcgatg 180
attcaaacag ttgtggttta ttttctgca agtttgacat taacattaat tactcccaat 240
tttaaaagca ataaagattt attgtttgtt ctattgatac attatattgt cttttatctt 300

```

tctgattttt	acagagactt	ttggagtcgt	ggctatcttg	aagagtttaa	aatggatttg	360
aaatacagct	tttactatat	tttcatatca	agttcattat	tttttatttt	taaaaactca	420
tttacaacga	cacgactttc	ctttttttct	tttattgcta	tgaattcgat	tttattgtat	480
ctattgaatt	cattttttaa	atatttatcg	aaatattctt	acgctaagtt	ttcacgagat	540
accaaagttg	ttttgataac	gaataaggat	tctttatcaa	aatgacctt	taggaataaa	600
tacgaccata	attatattgc	tgtctgcac	ttggactcct	ctgaaaagga	ttgttatgat	660
ttgaaacata	actcgttaag	gataataaac	aaagatgctc	ttacttcaga	gttaacctgc	720
ttaactgttg	atcaagcktt	tattaacata	cccattgaat	tatttggtta	ataccaaata	780
caagatatta	ttaatgacat	tgaagcaatg	ggagtgattg	tcaatgttaa	tgtagaggca	840
cttagctttg	ataatatagg	agaaaagcga	atccaaactt	ttgaaggata	tagtgttatt	900
acatattcta	tgaaattcta	taaatatagt	caccttatag	caaaacgatt	tttggatatc	960
acgggtgcta	ttataggttt	gctcatatgt	ggcattgtgg	caatttttct	agttccacaa	1020
atcagaaaag	atgggtggacc	ggctatcttt	tctcaaaata	gagtaggtcg	taatggtagg	1080
attttttagat	tctataaaatt	cagatcaatg	cgagtagatg	cagaacaaat	taagaaagat	1140
ttattagttc	acaatcaaatt	gacagggcta	atgtttaagt	tagacgatga	tcctagaatt	1200
actaaaatag	gaaaatttat	tcgaaaaaca	agcatagatg	agttgcctca	attctataat	1260
gttttaaaag	gtgatatgag	tttagtagga	acacgccctc	ccacagttga	tgaatatgaa	1320
aagtataatt	caacgcagaa	gcgacgcctt	agttttaagc	caggaatcac	tggtttgtgg	1380
caaatatctg`	gtagaaaata	tatcactgat	tttgatgaaa	tcgtaaagtt	agatgttcaa	1440
tatatcaatg	aatgggtctat	ttggtcagat	attaagatta	ttctcctaac	actaaaggta	1500
gtcttacttg	ggacagggtgc	taagtaaagg	taaggtttga	aaggaatata	atgaaaattt	1560
gtctgggttg	ttcaagtggg	ggcatcttag	cacacttgaa	ccttttgaaa	cccatgtggg	1620
aaaaagaaga	taggttttgg	gtaacctttg	ataaagaaga	tgctaggagt	attctaagag	1680
aagagattgt	atatcattgc	ttctttccaa	caaaccgtaa	tgtcaaaaac	ttggtaaaaa	1740
atactattct	agctttttaag	gtccttagaa	aagaaagacc	agatgttatc	atatcatctg	1800
gtgccgctgt	agcagtacca	ttcttttata	ttggtaagtt	atgtggttgt	aagaccgttt	1860
atatagaggt	tttcgacagg	atagataaac	caactttgac	aggaaaatta	gtgtatcctg	1920
taacagataa	atttattggt	cagtgggaag	aatgaaaaa	agtttatcct	aaggcaatta	1980

atttaggagg aatttttttaa tgatttttgt cacagtgggg acacatgaac agcagttcaa 2040
 ccgtcttatt aaagaagttg atagattaaa agggacaggt gctattgatc aagaagtgtt 2100
 cattcaaacg gggtactcag actttgaacc tcagaattgt cagtgggtcaa aattttctctc 2160
 atatgatgat atgaactctt acatgaaaga agctgagatt gttatcacac atggcgg 2217

<210> 173
 <211> 2226
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Consensus sequence

<400> 173
 gcaaaagaac agatggaaca aagtggttca aagttcttag gtattattct taataaagtt 60
 aatgaatctg ttgctactta cggcgattac ggcgattatg gaaattacgg aaaaagggat 120
 agaaaaagga agtaaggggc tcttgatttg aaagaaaaag aaaatataca aaagattatt 180
 atagcgatga ttcaaacagt tgtggtttat ttttctgcaa gtttgacatt aacattaatt 240
 actcccaatt taaaagcaa taaagattta ttgtttgttc tattgatata ttatattgtc 300
 ttttatcttt ctgattttta cagagacttt tggagtcgtg gctatcttga agagtttaaa 360
 atgggtattga aatacagctt ttactatatt ttcatatcaa gttcattatt ttttattttt 420
 aaaaactctt ttacaacgac acgactttcc tttttactt ttattgctat gaattcgatt 480
 ttattatattc tattgaattc attttttaaa tattatcgaa aatattctta cgctaagttt 540
 tcacgagata ccaagttgt tttgataacg aataaggatt ctttatcaaa aatgacctt 600
 aggaataaat acgaccataa ttatatcgct gtctgtatct tggactctc tgaaaaggat 660
 tgttatgatt tgaaacataa ctcgtaagg ataataaaca aagatgctct tacttcagag 720
 ttaacctgct taactgttga tcaagctttt attaacatac ccattgaatt atttggtaaa 780
 taccaaatac aagatattat taatgacatt gaagcaatgg gagtgattgt caatgttaat 840
 gtagaggcac ttagctttga taatatagga gaaaagcgaa tccaaacttt tgaaggatat 900
 agtgttatta catattctat gaaattctat aaatatagtc accttatagc aaaacgattt 960
 ttggatatca cgggtgctat tataggtttg ctcatatgtg gcattgtggc aatttttcta 1020
 gttccgcaaa tcagaaaaga tgggtggaccg gctatctttt ctcaaaatag agtaggtcgt 1080
 aatggtagga ttttttagatt ctataaattc agatcaatgc gagtagatgc agaacaatt 1140
 aagaaagatt tatttagttca caatcaaag acagggctaa tgtttaagtt agacgatgat 1200

cctagaatta	ctaaaatagg	aaaatatttatt	cgaaaaacaa	gcatagatga	gttgccctcaa	1260
ttctataatg	ttttaaaagg	tgatatgagt	ttagtaggaa	cacgccctcc	cacagttgat	1320
gaatatgaaa	agtataattc	aacgcagaag	cgacgcctta	gttttaagcc	aggaatcact	1380
ggtttgtggc	aaatatctgg	tagaaataat	attactgatt	ttgatgaaat	cgtaaagtta	1440
gatgttcaat	atatcaatga	atgggtctatt	tggtcagata	ttaagattat	tctcctaaca	1500
ctaaaggtag	tcttacttgg	gacaggagct	aagtaaaggt	aaggtttgaa	aggaatataa	1560
tgaaaatttg	tctgggttgg	tcaagtgggtg	gtcatctagc	acacttgaac	cttttgaaac	1620
ccatttggga	aaaagaagat	aggttttggg	taacctttga	taaagaagat	gctaggagta	1680
ttctaagaga	agagattgta	tatcattgct	tctttccaac	aaaccgtaat	gtcaaaaact	1740
tggtaaaaaa	tactattcta	gcttttaagg	tccttagaaa	agaaagacca	gatgttatca	1800
tatcatctgg	tgccgctgta	gcagtaccat	tcttttatat	tggttaagtta	tttggttgta	1860
agaccgttta	tatagagggt	ttcgacagga	tagataaacc	aactttgaca	ggaaaattag	1920
tgtatcctgt	aacagataaa	tttattgttc	agtgggaaga	aatgaaaaaa	gtttatccta	1980
aggcaattaa	tttaggagga	attttttaat	gatttttgtc	acagtgggga	cacatgaaca	2040
gcagttcaac	cgtcttatta	aagaagttga	tagattaaaa	gggacaggtg	ctattgatca	2100
agaagtgttc	attcaaacgg	gttactcaga	ctttgaacct	cagaattgtc	agtgggtcaa	2160
atctctctca	tatgatgata	tgaactctta	catgaaagaa	gctgagattg	ttatcacaca	2220
tggcgg						2226

<210> 174

<211> 2384

<212> DNA

<213> Streptococcus agalactiae

<400> 174

atgatttttg	tcacagtggg	gacacatgaa	cagcagttca	accgtcttat	taaagaagtt	60
gatagattaa	aagggacaga	tgctattgat	caagaagtgt	tcattcaaac	gggttactca	120
gactttgaac	ctcagaattg	tcagtgggtca	aaatttctct	catatgatga	tatgaactct	180
tacatgaaa	aagctgagat	tggtatcaca	catggcgggtc	cagcgacgtt	tatgaatgca	240
gtttctaaag	ggaaaaaac	tattgtgggt	cctagacaag	aacagtttgg	agagcatgtg	300
aataatcatc	aggtggattt	tgtaataaag	gtaaaaacaa	tgtataattt	tgatatcggt	360
gtagatattg	aaagggtaca	aatgtagtc	tatgagggga	cgatgaatcg	tccgttttta	420

gaaactaaca gaagtaattt tattgaagaa ttttaaggtaa tattaaagga gttgtgtgat	480
gaaaatcaat aaaaactctt ttttttatat tgcaatattt ttagttaatt tttttaaatc	540
actaggttta ggagagggga actcaactta caaaatagtg atgtttgttg caatcttctt	600
gtgtggaata aaatttttat tagatagcct ttattttgaa agaagaaaac tcgttatcat	660
ctttttatta tttattgca ccatTTtgaa tttattcttt gttcataagg ttacttttat	720
attaacttta attttttttc tagcattaaa ggatatctct ctaaaaaag ctttctctat	780
aataatagga tcgcgtattt tgggagttct attaaatcaa atttttgtga aattagattt	840
aatagaaatt aaatatatca atttttatag ggatggacaa tttattctga gaagtgactt	900
aggttttggt catcctaact ttattcataa tttttttgca gtaactgttt ttttatatgt	960
aacacttttt tatagaaaac taagattaat aactattgct tttattttta ctctaaatta	1020
cttcttgat cagtatactt attcaagaac tggatattat atagtactct tatttatact	1080
tattatatat gttacaaaga ataacctgat aaggaaaatt tttatgatag ttgctccgta	1140
catacaactg ttcttgtag catTTtacttt tctttgctct actatttttt tcaactcaaa	1200
ttttgttcaa aaattagata gcctTTtgac aggtaggtta aactatgctc atttacagct	1260
tgtagacggc ttaactcttt ttggaaatag ttttaaggag acgagtgtcc tatttgataa	1320
tagctactct atgttattga gtatgtatgg tgtagtactt accatgtttt gtatgataat	1380
ctattatatc tatagtaaaa aagtcaatgt agttgagctc cagatacttt tgtttataat	1440
gtctatagta ttatttacag agagtTTtta cccaagtata gttatgaata ttagttggat	1500
ggtttttggg aaaatatTTt gtgggggtgt agatgattta caacgagagt tcacttggac	1560
ggcaaataaa aattagtgt attgtaccag tatataattc gaaacaatat ttaatagctt	1620
gcgttgattc aattagaaaa caaacatata agaatttggg aattattctt gttaatgatg	1680
gatcaacaga tggtagtaaa gagttatgtg aggagataag aaaatcagat gaaagaatta	1740
agacatttca caaaacaaat ggaggacaat caagcgcaag gaatttaggt attttatact	1800
ctacaggaga tttgattggt tttgttgaca gcgacgatac aattgaccct aaaatgtatg	1860
aaacgttact aaatatatat gaagatgaac aagtagactg ggtgcaatgt aatcacaaaa	1920
aaatttactc taacggtgtt aacttatatt ataatggacc tgaatactat aatgtgctta	1980
ataaacaaga tttcctatac gaatttctga gtacaaataa gatttttagt tcagtctgcg	2040
aggggttgtt atctagagat ttagctttta aaataaaatt ccgtgaagaa aaaaaatatg	2100

aagatacaca gttttatattt gatctcataa aaaatgctaa taagtttggtt attataagcc 2160
 aaccttttta taattactac tacagaaaaa atagtacaac aacttcctca tatagtagct 2220
 atcaatggga cataatcgat atctgtactg agtggttatta ttatgcaaag gattttaatg 2280
 gatttgaaga agttgctttt tcaagattat ttggtgcata ttcgtagta gctaataaaa 2340
 ttgtatataa taaagattat agaaaaaccg aagaattaag ataa 2384

<210> 175

<211> 2337

<212> DNA

<213> Streptococcus agalactiae

<400> 175

atgatttttg tcacagtggg gacacatgaa cagcagttca accgtcttat taaagaagtt 60
 gatagattaa aaggacagg tgctattgat caagaagtgt tcattcaaac gggttactca 120
 gactttgaac ctgagaattg tcagtgggtca aaatttctct catatgatga tatgaactct 180
 tacatgaaag aagctgagat tgttatcaca catggcggcc cagcgacgtt tatgaatgca 240
 gtttctaaag gaaaaaaaaac tattgtgggt cctagacaag aacagtttgg agagcatgtg 300
 aataatcatc aggtggactt tgtaataaag gtaaaaacaa tgtataattt tgatatcggt 360
 gtagatattg aaagggtaca aaatgtagtc tatgagggaa tgatgaatcg tccgttttta 420
 gaaactaata gtagtaattt tattgaagaa tttaaggtaa tattaaagga gttgtgcgat 480
 gaaaatcaat aaaaactctt tattttatat tgcaatattt ttagttaatt tttttaaatc 540
 actgggttta ggcgaggga actcagctta caaaatagtg atgttagttg caattttact 600
 gtgtggaata aaatttttat tagatagcct ttattttgaa agaagaaaac tcgtgatcat 660
 ctttttatta tttatcgaga ccattttgaa tttattcttt gttcataagg ttacttttat 720
 attaaactta attttttttc tagcattaaa ggacatctct ctaaaaaag ctttctctat 780
 aataatagga tcgcgtattt tgggagttct attaaatcaa atttttgtga aattagattt 840
 aatagaaatt aagtatgtca atttttatag ggatggacaa tttattctga gaagtgactt 900
 aggttttggt catcctaact ttattcataa ttttttgct ctaactattt tcttgatat 960
 tgtactcaat tataaacgac taaagcctgt tgtgatgggt ttatttttaa cattaaatta 1020
 tttattgtac caatatactt tttcaaggac agggatttat atcgtaattt tatttattgt 1080
 actcatttat gtgacaaaga atagcttaat aaaaagagta tttatgaaat tagcacccta 1140
 tgtacaattt tttttattag tatttacctt ttgagttct acaatttttt ttaattcaaa 1200

ttttgttcaa aaattagatg ttcttttaac aggtagatta cactatgctc atttacaact	1260
tgtagatggg ttaactcctt ttggaaatag ttttaaggaa acaagtgtcc tatttgataa	1320
tagctactct atgttattga gtatgtatgg tgtagtactt accatgtttt gtatgataat	1380
ctattatatac tataagtaaaa agataatcat aattgaactt caactactcc tattttataat	1440
gtctataata ttattttactg aaagttttta tcccagtgtg gtaatgaata ttagttggct	1500
agtttttggg aaaatatatt gtgatgggat cgaacctata aaaaaggaa ttactattgt	1560
gaataatata tgacatatat gctctgatat ggcaggaggg aaggaaggaa aatgatacct	1620
aaagttatac attattgttg gtttgaggga aatcccttac cagataattt aaagaaatat	1680
ataaaaaactt ggagagaaca atgtccggat tatgaaatta ttgaatggaa tgagcataat	1740
tatgatgtta gtaaaaatgt ttttatgaga gaagcatata ctaagaagaa ttttgcttat	1800
gtttctgact atgcaagatt ggatattatt tatacttatg gggggttcta tctagatact	1860
gatgtggagc ttttaaaaag tttagatcct ttgaggattc atgagtgttt tctagcaagg	1920
gagattagtt gtgatgtgaa tacaggatta ataattggcg ctgttaaagg acatcacttt	1980
ttaaaatcaa atatgtctat atatgacaaa agtgatttaa cttctcttaa taagacatgt	2040
gtagaggtta caactaattt attgataaac agagggctta agaataagaa tattattcaa	2100
aagattgatg atataacaat atatccgaga aattatttta atccaaagaa tttattaaca	2160
ggtaagggtg attgtctgac tagtgttacc tattctatac atcattacga aggaagttgg	2220
aaaagttctt catttatttc agattctcta aagattagag taaggctcat aattgatttt	2280
ttatttggat atgggtactta tagaatgctt ctaaggtttc taaagttaaa gaaatag	2337

<210> 176

<211> 2722

<212> DNA

<213> Streptococcus agalactiae

<400> 176

atgatttttg tcacagtggg gacacatgaa cagcagttca accgtcttat taaagaagtt	60
gatagattaa aaggacagg tgctattgat caagaagtgt tcattcaaac gggttactca	120
gactttgaac ctacagaattg tcagtgggtca aaatttctct catatgatga tatgaactct	180
tacatgaaag aagctgagat tggtatcaca catggcggtc cagcgacgtt tatgaatgca	240
gtttctaaag ggaaaaaac tattgtggtt cctagacaag aacagtttgg agagcatgtg	300
aataatcatc aggtggattt ttgaaagag ttattcttga aaattgaatt agattatatt	360

ttgaatatca gtgaattaga gaatattatt aaggaaaaaa atatatctac tagtaaagta	420
atatcacaaa acaatgattt ttgtttctct ttcaaaaatg aacatttcat aaactatttg	480
aataaatata ttttgttgga gaaaaaaatt gaaattaaca tatcaatcca aagtatttgt	540
taataggagg aattttcgct ttaaccctat tttcaaagcc aatgcaactt ttgttacttt	600
tagcattaat agttttactt atttgtagta gttataagaa aaaaatgaaa tttttatata	660
tggctgaaat ttttttcatt gtattttata tcatttattt aacttcaata ttgctacatt	720
ctttgtttta aactcctgat tttgatagaa ttttagcagc ttttaactcg ttgattatcg	780
gtatagtatc agtggctttg aaacgggtgg ataagaatac aactttggag ttagataaaa	840
tattaaaagc atttttattt aatgggttaa tcctattttt tttaggggga acatattatt	900
attgtttgca taataatatt caaaatatca gtatttttgg tagagatttg attgggtcag	960
actggattaa tggatgcat actcaaagag caatgggatt ttttgaatat tcaaacctta	1020
taattcctat gacagtggta actaactata tatatatata ttatatgaag ttaagaaact	1080
attcaattat gaccataggt gttgtattat tatttacctt tattttacct attggatcgg	1140
gctccagggc tggaaatagta gctatattgg cgcagatgtt tattcttctt ctaaatacag	1200
ttgtcgtaaa gaagaaaact ataaaatttt tattgtacat acttccgttt ctactagtaa	1260
tagtaatgat gttatatattt gataacttac tatctatata ttatcgata attaatgtgc	1320
gatccgggag tagtgaatcc agattttctg tatataaaga tacagtaaac atcgttataa	1380
ataattcttt attatttgga gaaggagtta aagagttatg gttaaatagt gatctacctt	1440
tggggtcgca ttcaacgtat ataggctatt tctacaaaag tggcctgctg ggattaatga	1500
atatagttcc aggtttgctt ttaattttta ctaatattgg taggaaagct aaacaatcag	1560
ctttttatta tgagatagta ggaacactta taactttatt ctcatTTTTT gcacttgaag	1620
atcttgacgg agctaattgg cttattgttt ttatttttac agtggttagga attttagaaa	1680
ataaggattt ttatagtcaa cttaaaaggt ggaaaagtta atggaaaaac gaatacttgt	1740
ttctatcatt atacctatat acaactcaga agcatacctt aaagaatgtg tgcaatccgt	1800
actacaacag actcatccat tgatagaagt tatactaatt gatgatggat ccactgataa	1860
tagtggagaa atttgtgata atttatctca agaagataat cgcatacttg tatttcataa	1920
aaaaaatgga ggggtctctt cggcaaggaa cctaggtcta gataaatcca caggagaatt	1980
cataacattt gtggatagtg atgattttgt agcaccgaat atgattgaaa taatgttaaa	2040
aaatttaatc actgagaatg ctgatatagc agaagtagat tttgatattt cgaatgagag	2100


```

agattataga aagaagaaaa gacgaaactt ttataaagtc tttaaaaaaca ataactcttt 2160
aaaagaatth ttatcaggca atagagtgga aaatattggt tgtacaaaat tatataaaaa 2220
aagtataatt ggcaacttga ggtttgatga gaacttaaaa attggtgagg atttactttt 2280
taattgtaaa ctcttatgtc aagagcaccg tatagtcgta gatacgactt cttccttata 2340
tacttatcga attgtaaaaa cttccgcaat gaatcagaaa ttcaacgaaa actcattaga 2400
ttttataaca atttttaatg aagtaagtag tttgggtcct gccaaattgg ctaattatgt 2460
tgaagcgaaa tttttaagag aaaagataaa gtgtctccga aaaatgtttg aattaggtag 2520
taatattgac aataaaatca aagtacaacg agagatthtt ttcaaagaca ttaaatacata 2580
cccgttctat aaagcggtaa aatacttata attaaagga ttattaagct tttatttaat 2640
gaaatgttca cctaaactat atgttatggc atatagaaga ttcaaacag tagctggaga 2700
aattgggaaa gagaatttat aa 2722

```

<210> 177

<211> 2692

<212> DNA

<213> Streptococcus agalactiae

<400> 177

```

atgatttttg tcacagtagg gacacatgaa cagcagttca accgtcttat taaagaagtt 60
gatagattaa aaggacagg tgctattgat caagaagtgt tcattcaaac gggttactca 120
gactttgaac ctgagaattg tcagtgggtca aaatttctct catatgatga tatgaactct 180
tacatgaaag aagctgagat tggtatcaca caggcggtc cagcaacgtt tatgaatgca 240
gtttctaaag ggaaaaaac tattgtggtt ctagacaag aacagtttgg agagcatgtg 300
aataatcatc aggtggattt ttgaaagag ttattcttga aatatgagtt agattatatt 360
ttgaatatca gtgaattaga gaatattatt aaggaaaaaa atatatctac tagtaaagta 420
atatcacaaa acaatgattt ttgttcctct ttcaaaaatg aactttctaa actatttgaa 480
taaatatatt ttgttgagga aaaaaattga aattaactat caatccaaag tatttggtta 540
taggaggaat tttcgcttta accctatttt caaagccaat gcaacttttg ttacttttag 600
cattaatagt ttacttatt tgtagtagtt ataatgaaa aatgaaattt ttaaataatg 660
ctgaaatttt tttcattgta ttttatatgg tttatttagt atcaatagta ttaaattcgt 720
tatttagaag tccagaattt catagagtca ttgctgcatt caattcactg gcagtagggg 780
ttgtgtcctt attattttac cattactata agaatactaa tattgaatta acaaaattgc 840

```

taaaatcatt	tttgtttaat	gcaattat	ttt	tgttttg	ttt	aggatttcta	tattattatg	900
ccatatat	ttt	tgatgtagag	aatgtaagtc	tttttggaag	aaatttaatt	ggatcagatt	960	
ggataaatgg	gatgcatacg	cagagagcaa	tggctttctt	tgaatattca	aatcttataa	1020		
tacccttaac	tatcataact	aatatatata	tatatatata	tattaagcaa	agatatagct	1080		
cagggatgat	gatactcggg	gctcttctct	ccactattat	actacccatc	gggtctggat	1140		
ctagagctgg	tattatagtt	gtgctactac	aggttataat	tttattgttg	aatacaattg	1200		
taataaaaaag	acaaacgata	agattttttcc	tgtatttagt	tccgatacta	atattactat	1260		
tagtgatatt	acgttttgat	aatttggtga	gcataataa	tagaataatc	aatttgcggg	1320		
cgggaagtag	tgaatctaga	ttttctttgt	acaaggatac	cgtacactca	gtaattactg	1380		
actcactatt	tctgggaaaa	ggtgtaaaag	aattgtgggt	aaatagtgat	ttaccactag	1440		
gatcgcattc	gacctacata	ggttattttct	ataaaactgg	cctatttgga	ctaataaatg	1500		
tgattttagg	tttgtttcta	attcttatta	gcattatcaa	ggaagctaaa	aagtcagatt	1560		
tctattatga	gatagtaggg	tctgtcatac	tcctattttc	attttttgca	cttgaagata	1620		
ttgatggcgc	caattggctc	attatttttg	tctttacagt	gttgggaatt	ttagaaaata	1680		
aggatttcta	tagtcaactt	aaaagggtggg	aaagttaatg	gaaaaacaaa	tacttgtttc	1740		
tatcgttata	cctatatata	actcggaagc	atatcttaaa	gaatgcgtgc	aatccgtcct	1800		
acaacagact	cattcattga	tagaagttat	actgattaat	gatggatcca	ctgataatag	1860		
tggagaaaatt	tgtgataatt	tatctcaaaa	agacgatcgc	atacttgtat	ttcataaaaa	1920		
aaatggaggg	gtatcttcgg	caaggaacct	aggtcttgat	aaatccacag	gcgaattcat	1980		
aacgtttgta	gatagtgatg	atgttgtagc	accgaatata	attgaaataa	tgtaaaaaaa	2040		
tttaatcact	gaggatgctg	atatagcaga	agtagatttt	gatatttcga	atgagagaga	2100		
ttatagaaaag	aaaaaaagac	gaaactttta	taagggtcttt	aaaaacaata	attcttttaa	2160		
agaattttta	tcaggtaata	gagtggaaaa	tattgtttgt	acaaaattat	ataaaaaaag	2220		
tataattggg	aacttgaggt	ttgatgagaa	tttaaaaatt	ggtgaggatt	tactttttta	2280		
ttgtaaaaatt	ttatgtcaag	agcactgcat	agtcgtagat	acgacttctt	ccttgtagac	2340		
ctatcgcac	gtaaagactt	ctgcaatgaa	tcaggagttc	aacgaaaatt	cattagattt	2400		
tataacaatt	tttaatgaaa	taagcagtat	tgttcctgca	aaattagcta	attatgttga	2460		
agcgaaaatt	ttaagagaaa	aggtaaagtg	tctccgaaaa	atgtttgaat	taggtagtaa	2520		

tattgacagt aaaatcaaat tacaacgaga gatttttttc aaagatgtta aattataccc 2580
 tttctataaa gcggttaagt acttatcatt aaagggatta ttgagtattt acttaaatgaa 2640
 atgttcaccc atcttgtata taaaattata tgacagggtt caaaaacagt aa 2692

<210> 178

<211> 2581

<212> DNA

<213> Streptococcus agalactiae

<400> 178

atgatttttg tcacagtggg gacacatgaa cagcagttca accgtcttat taaagaagtt 60
 gatagattaa aagggacagg tgctattgat caagaagtg t cattcaaac gggttactca 120
 gacttcgaac ctcagaattg tcagtgggtca aaattttctt catatgatga tatgaactct 180
 tacatgaaag aagctgagat tgttatcaca catggcggcc cagcgacgtt tatgtcagtt 240
 atttcttttag ggaaattacc agttgttggt cctaggagaa agcagtttgg tgaacatatc 300
 aatgatcatc aaatacaatt tttaaaaaaa attgccacc tgtatccctt ggcttggatt 360
 gaagatgtag atggacttgc ggaagcgttg aaaaggaata tagctacaga aaaatatcag 420
 ggaaataatg atatgttttg tcataaatta gaaaaaatta taggtgaaat atgaggaaat 480
 atctagattt agattattct ttattttatg ctctttgggt acttatttta gtaccaaacc 540
 aatgggtatca gtttttaatt attaccatta tagttctatt attactttgg aagagtgagt 600
 ttagaatatc tataagcaat tcttcaatac tatttctgct ttggttattt atttatttat 660
 ttgcaatact cattagaggt actcaagagg atataacgtt tcagcgattt attgctgagc 720
 tattaanaact aattagtaca ggatatgctt tattttttta taattattat agaaaagctg 780
 attttaatatg ttcagttgta aggaatgtgg taaagggtta ctattttgtg ttgtttctta 840
 taacagtttt atatttattt tttcctatgc tgaagccaac tttatttgga agagaattgt 900
 tttcaataga gtgggtttcca catatgagaa taagacttgc ggcataattt gaatatgcta 960
 cactaattgg tcagtttatt ttattttctt atcccatact ttttttgaaa ccccaaaaac 1020
 atatggaaaa tattttaata tccttactgt tgactatatg ttcatacttt tctggcgcta 1080
 gaatactatt ggtctgtatg ttgggttttat tagcatcgct tcttttagat tatatccttt 1140
 ttaaaactaa tttgaaattg accaagaaaa acacttttat acttggtatg actttcttat 1200
 ttatcaccgc ttgtttttct tataacatat ggtcaataat tgaaaaaata attatgtaca 1260
 gaaaccaaag tactatcact aggatgatag tttatcaaga aagtattatt gaagttctaa 1320

aaggaaatat tttatttgga caggggtataa ggattccatc aagtgaagga atattcctag 1380
 gatcgcatc tacttatatt agtgtctttt acaggacttc tttattagga attgttcttt 1440
 atttttctgc ctttatactt ttatataaag aagcgatttc aaaaaattat aaaatctaca 1500
 gattattttt ttatacgtta ttatgttaca cgctctttga ggaaatagat cctaattcatt 1560
 ggagtattgt attattattc tcaacttttg gtatagtggg aagggctaaa aaatgaaaga 1620
 aaaagtaaca gtcattatac ctatatacaa ctcagaagca taccttaaag aatgtgtgca 1680
 atccgtacta caacagactc atccattgat agaagttata ctaattgatg atggatccac 1740
 tgataatagt ggagaaatth gtgataatth atctcaggaa gataatcgca tacttgtatt 1800
 tcataaaaaa aatggagggg tctcttcggc aaggaaccta ggtctagata aatccacagg 1860
 agaattcata acatttgttg atagtgatga ttttgtagca ccgaatatga ttgaaataat 1920
 gttaaaaaat ttaatcactg agaatgctga tatagcagaa gtagattttg atatttcgaa 1980
 tgagagagat tatagaaaga agaaaagacg aaacttttat aaagttttta agaataataa 2040
 ctctttgaaa gaatttttat caggtaatag agtggaaaat attgtttgta caaaattata 2100
 taaaaaaagt ataattggta acttgagggt tgatgagaac ttaaaaattg gtgaggattt 2160
 actttttaat tgcaaaactct tatgtcaaga gcaccgtata gtcgtagata cgacttcttc 2220
 cttatatact tatcgaattg taaaaacttc tgtaatgaat cagaaattca acgaaaactc 2280
 attagatttt ataacaattt ttaatgaaat aagtagtttg gttcctgcca gattagctaa 2340
 ttatgttgaa gcgaaatttt taagagaaaa gataaagtgt ctccgaaaaa tgtttgaatt 2400
 aggtagtaat attgacaata aaatcaaagt acaacgagag atttttttca aagacattaa 2460
 atcatacccg ttctataaag cggcacaata cttatcatta aagggtattat taagctttta 2520
 tttaatgaaa tgttcaccta aactatatgt tatggcatat agaagatttc aaaaacagta 2580
 g 2581

<210> 179

<211> 2577

<212> DNA

<213> Streptococcus agalactiae

<400> 179

atgatttttg tcacagtggg gacacatgaa cagcagttca accgtcttat taaagaagtt 60
 gatagattaa aaggacagg tgctattgat caagaagtgt tcattcaaac gggttactca 120
 gactttgaac ctcagaattg tcagtgggtca aaatttctct catatgatga tatgaactct 180

tacatgaaag aagctgagat tgttatcaca catggcggcc cagcgacgtt tatgtcagtt	240
atttcttttag ggaaattacc agttgttggt cccaggagaa agcagtttgg tgaacatatc	300
aatgatcatc aaatacaatt tttaaattcg attgcccacc tgtatccctt ggcttggatt	360
gaagatgtag atggacttgc ggaagcgttg aaaaggaata tagctacaga aaaatatcag	420
ggaaataatg atatgttttg tcataaatta gaaaaaatta taggtgaaat atgaggaaat	480
atctagattt agattattct ttattttatg ctctttgggt acttatttta gtaccaaacc	540
aatggtatca gtttttaatt attaccatta tagttctatt attactttgg aagagtgagt	600
ttagaatatc tataagcaat tcttcaatac tatttctgct ttggttattt atttatttat	660
ttgcaatact cattagaggt actcaagagg atataacgtt tcagcgattt attgctgagc	720
tattaaact aattagtaca ggatatgctt tttttttta taattattat agaaaagctg	780
attttaatag ttcagttgta aggaatgtgg taaaggtaa ctattttgtg ttgtttctta	840
taacagtttt atatttattt tttccaaatg aatttactac attcctagga agagatttat	900
tttcaattga atggattcct tctatgaaag ttagacttac tgcataattt gagtatgcaa	960
cactattagg tcagtttatt ttattcactt atccgatatt atttttaaaa cagcagaggt	1020
atggagaaaa tattttttatc acactattcc tagttttttg tgcataattg acaggggcaa	1080
gaattttcct aatttgtatg ataattttat taggttattt actcttagaa ataatcatta	1140
ataaatttaa cctaaaaatt actaaaaaag ctgtcttttt gataattata gggataatat	1200
tattattggg atgtttttct tacaaagtgg agtctattat caattatata atacactata	1260
gatttcaaag tagtagtaca agattgacag tctattacga aagtataaga gcgattttag	1320
atgggaattt ctttattggg caaggtataa gagttccctc cagtgtggga atatttttag	1380
gttcacattc atcatacatt agtatatttt atagaacttc ttttacgggg ctgtttcttt	1440
tcttttcaat attacttttt ctatatagag aagctatcaa acaaaacagg ataatctaca	1500
agcttttttt tggattgtta ttattgtata tggattttga agaatttgat cctaattcatt	1560
ggagtgttgt attgttattt actacattag gtatagtagg gagagggaat gataaaaaaa	1620
ctagttagtg tgattgttcc agtttataat tcggagttag tgattgagaa ctgtgtagaa	1680
tctttgcttc aacaaacata cccagaaata gaaattttat taatagatga tggatctaca	1740
gataaaagta gtcataattg taataatttt ttaaaaaggg atagtcgcgt aaaagtctat	1800
cataaatata atggaggtgc atcatcagca agaaatgtgg gacttgagat ggcagaaggt	1860
gaatttataa cttttgtaga tagcgatgat gttgtcgcac taaatatgat tgaaattatg	1920

ctgaataatt tgttaacgga gaacgcagat atatcagaaa ttgatttcga agtttcagat 1980
 gattttttata aaagaaaaaa aagaaaaggt tactatagag tttttcaaaa caataagtct 2040
 ctcaaagaat ttttttcagg aaataaagta gaaaatgttg tttgggggaa attatataaa 2100
 aaaagcatta ttgggggattt acgatttaat gaaaaataca aaattggtga agacttgcta 2160
 ttttaactttc agatttttaa taaagaacat cgtatagttg tagatactag aagatcactc 2220
 tataacttata gtattgaaga aaaatctata atgaatcaac aatttaataa aaatacatta 2280
 gacttcattg atatttttaa tgagattcat caggatagtc cgacagaatt gtttaattat 2340
 gtggaagcga agtttgtacg agaaaaaatc aagtgtttta ggaaaatgtt tgaattagga 2400
 gaaatagctg atgaaaattt acgtttacag agatataaat tttggcaaga tattaaatca 2460
 tattcaatat gcaaagcaat aaggttctta tctaaaaaac atatctgtac gttatatattg 2520
 atgaaatatt ttccgtacgt atatataaag atgtataata aatttcacaaa gcaataa 2577

<210> 180

<211> 450

<212> DNA

<213> Streptococcus agalactiae

<400> 180

aaggtaatct taatattttt gaagagtcaa tagttgctgc atctacaatt ccagggagtg 60
 cagcgacctt aaatacaagc atcactaaaa atatacaaaa cggaacgct tacatagatt 120
 tatatgatgt aaagaatgga ttgattgac ctcaaacct cattgtatta aatccatcaa 180
 gctattcagc aaattattat atcaacaag gtgctaaata ttatagtaat ccgagtgaag 240
 ttacaacaac tggttcagca actattactt ttaatatact tgatgaaact ggaaatccac 300
 ataaaaaagc tgatggacaa attgatatag ttagtgtgaa ttaactata tatgattcta 360
 cagctttaag aaataggata gatgaagtaa taaataatgc aaatgatcct aagtggagtg 420
 atgggagtcg tgatgaagtc ttaactggat 450

<210> 181

<211> 450

<212> DNA

<213> Streptococcus agalactiae

<400> 181

aaggtaatct taatattttt gaagagtcaa tagttgctgc atctacaatt ccagggagtg 60
 cagcgacctt aaatacaagc atcactaaaa atatacaaaa cggaatgct tacatagatt 120

tatatgatgt aaagaatgga ttgatcgatc ctcaaaacct cattgtatta aatccatcaa	180
gctattcagc aaattattat atcaaacaag gtgctaaata ttatagtaat ccgagtgaaa	240
ttacaacaac tggttcagca actattactt ttaatatact tgatgaaact ggaaatccac	300
ataaaaaagc tgatggacaa attgatatag ttagtgtgaa tttaactata tatgattcta	360
cagctttaag aaataggata gatgaagtaa taaataatgc aaatgacct aagtggagtg	420
atgggagtcg tgatgaagtc ttaactggat	450

<210> 182

<211> 11

<212> DNA

<213> Streptococcus agalactiae

<400> 182

ggcatccgat t

11